

Docket No. 6645.37001

PATENTS
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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In Re Patent Application Of :
Johnnie E. Floyd : Examiner: Sugarman, S.
Serial No. 10/001,867 :
Filing Date: November 19, 2001 : Group Art Unit: 2873
"LENS ARRANGEMENT WITH FLUID :
CELL AND CONTROL SYSTEM" :
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DECLARATION OF JOHNNIE E. FLOYD

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

1. I, Johnnie E. Floyd, am competent to make this declaration. I am over 18 years of age and am the inventor the subject patent application.
2. I have read and understand Triesman, U.S. Patent No. 4,890,903 (Triesman). I understand that the Examiner has rejected this application as unpatentable due to Triesman.
3. When I read Triesman, my first impression, based on my experience and experimentation with fluid lenses, was that Triesman's membrane was too thin to make a fluid lens. Upon my own doing, and without any urging from my patent attorney, I decided to test my theory.
4. I constructed a fluid cell in accordance with the teachings of Triesman. I used a 50 mm diameter medicine container as the body and stretched saran wrap (polyvinylidene chloride) as membranes on each end. The saran wrap is comparable to the membrane taught by Triesman. I retained the membranes in place with rubber bands along the outside

diameter of the body. I inserted one tube into the side of the body for filling with fluid and draining off gases.

5. I then made a target grid of .125 inch squares on .25 spacings. I then aligned the grid, lens, and a camera. Exhibit A shows the test fluid cell and test arrangement. The test cell is shown as the cylinder with the target grid in the background. Exhibit B looks through the test cell. One can see the target grid both through the lens (inside the ring) and outside of the lens (outside the ring). In the photos, the squares of the target grid are somewhat fuzzy due to the camera used to record the scene. Yet, one can note the distortion of the target grid when viewed through the cell, which is inside the ring. The cell causes distortion in that the vertical lines are not vertical. The squares at the top of the cell are small and distorted relative to the squares at the bottom of the cell.

6. I visually observed the membranes and saw that the membranes bulged outward at the bottom relative to the top of the cell. I attribute this to the pressure of the fluid inside forcing the bottom of the membrane outward with more force than at the top. Exhibit C is my sketch of the membrane of the Triesman lens.

7. Exhibit D shows a test set up for my fluid cell. Exhibit D shows the target when viewed through my fluid cell. As one can see, there is no distortion from the top to bottom or side to side caused by the fluid cell. To the extent that there is distortion, it is due to the camera that took the photograph. The grid on the outside of the cell appears to be the same as the grid on the inside of the cell.

8. I further declare that all statements made herein of my own personal knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above referenced application or any patent issuing thereon.

9-19-03

Date

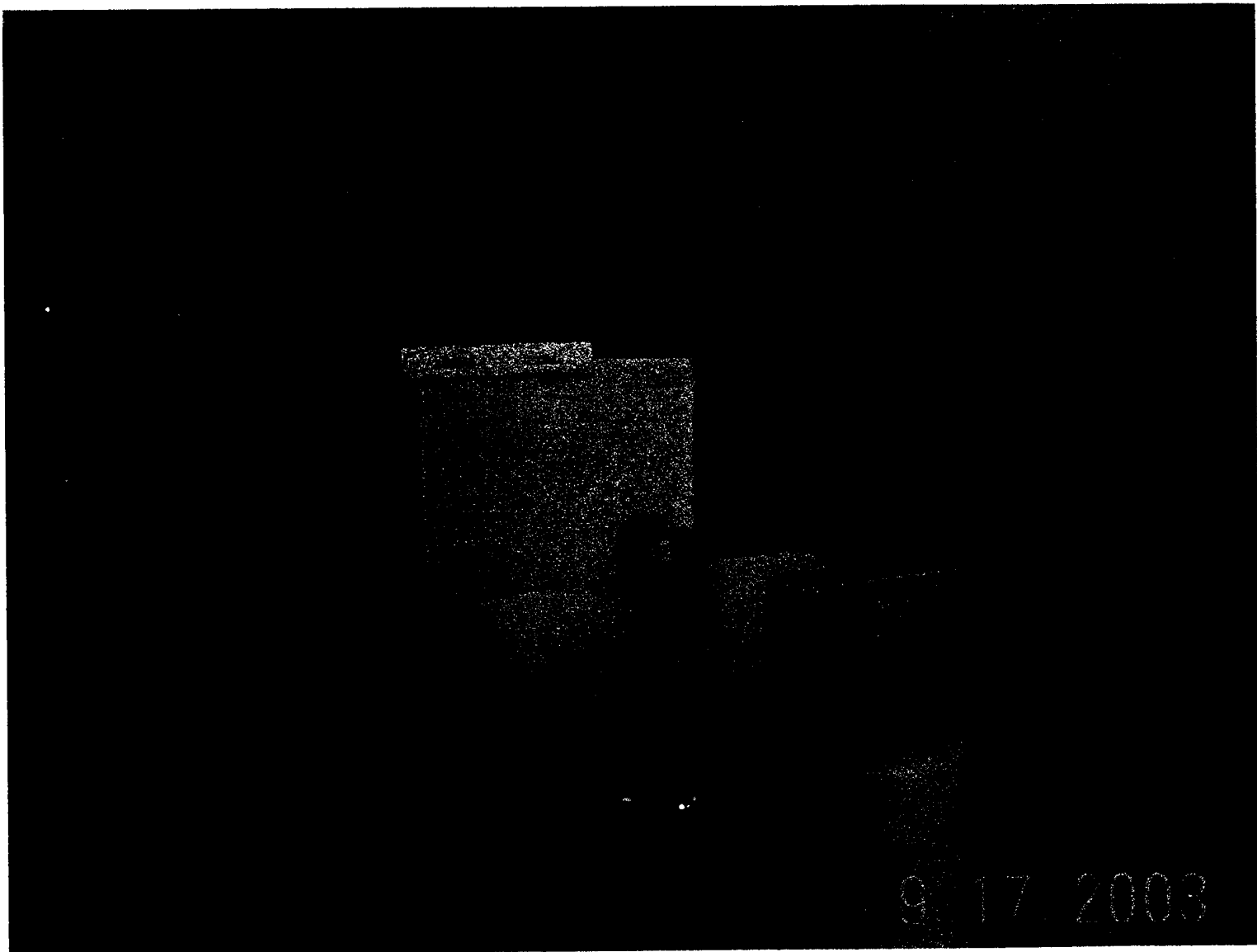
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Johnnie E. Floyd

Johnnie E. Floyd



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EXHIBIT

A



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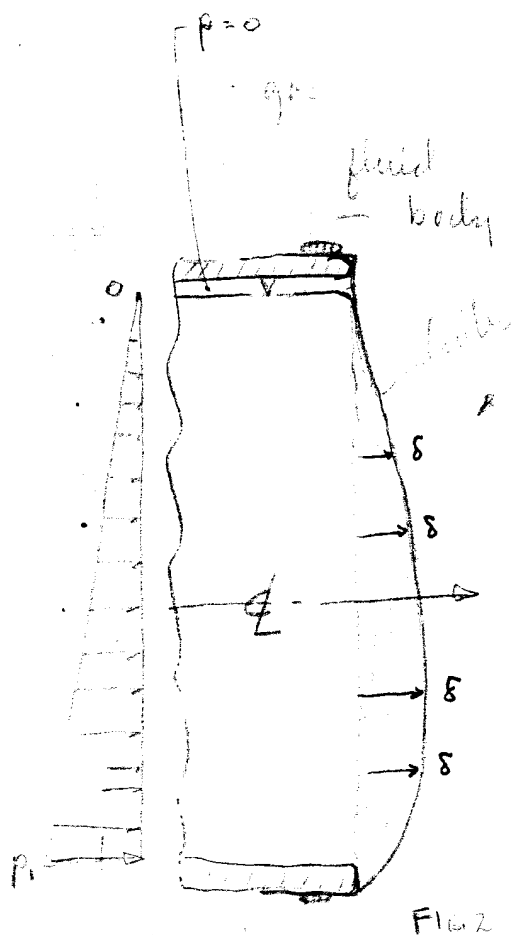
EXHIBIT

B

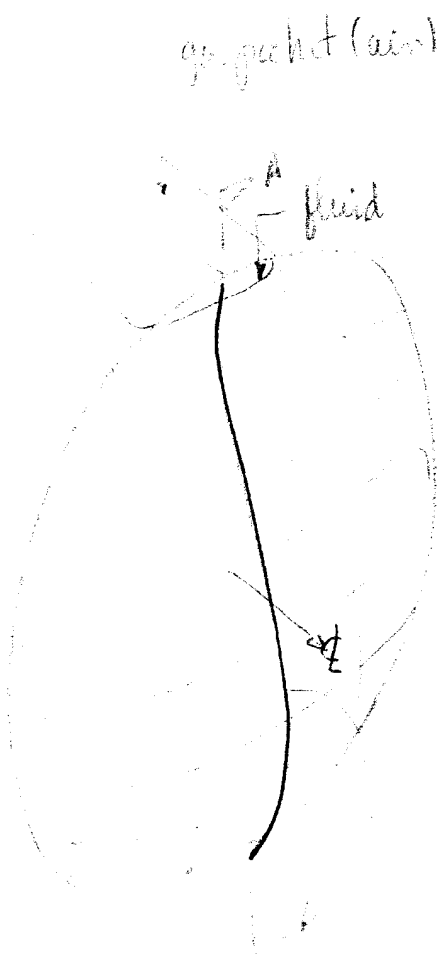


Sketches of Saran Wrap Membrane Deflections.

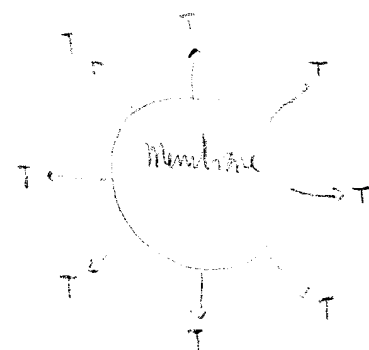
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Side View
AA (no scale)
hydrostatic
head (p)



Isometric View
(no scale)



Initial tension
to remove
wrinkles

FIG 3
(no scale)

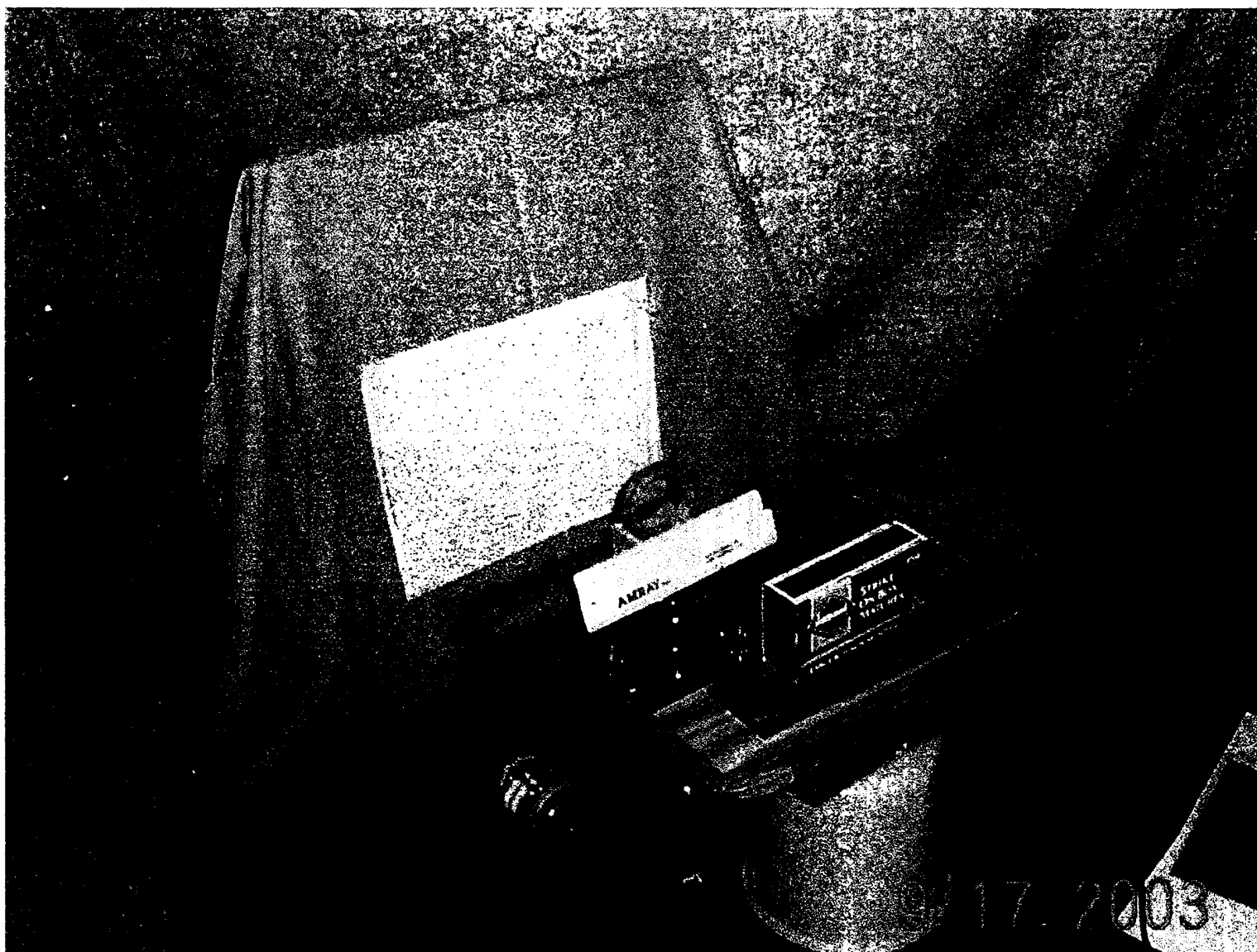
Sketches of Saran Wrap Membrane
Optical & Horizontal
Initially tensioned
Water filled

No applied pressure
See Hydrostatic Head Pressure Wedge

J Floyd 9-18-03

EXHIBIT

C



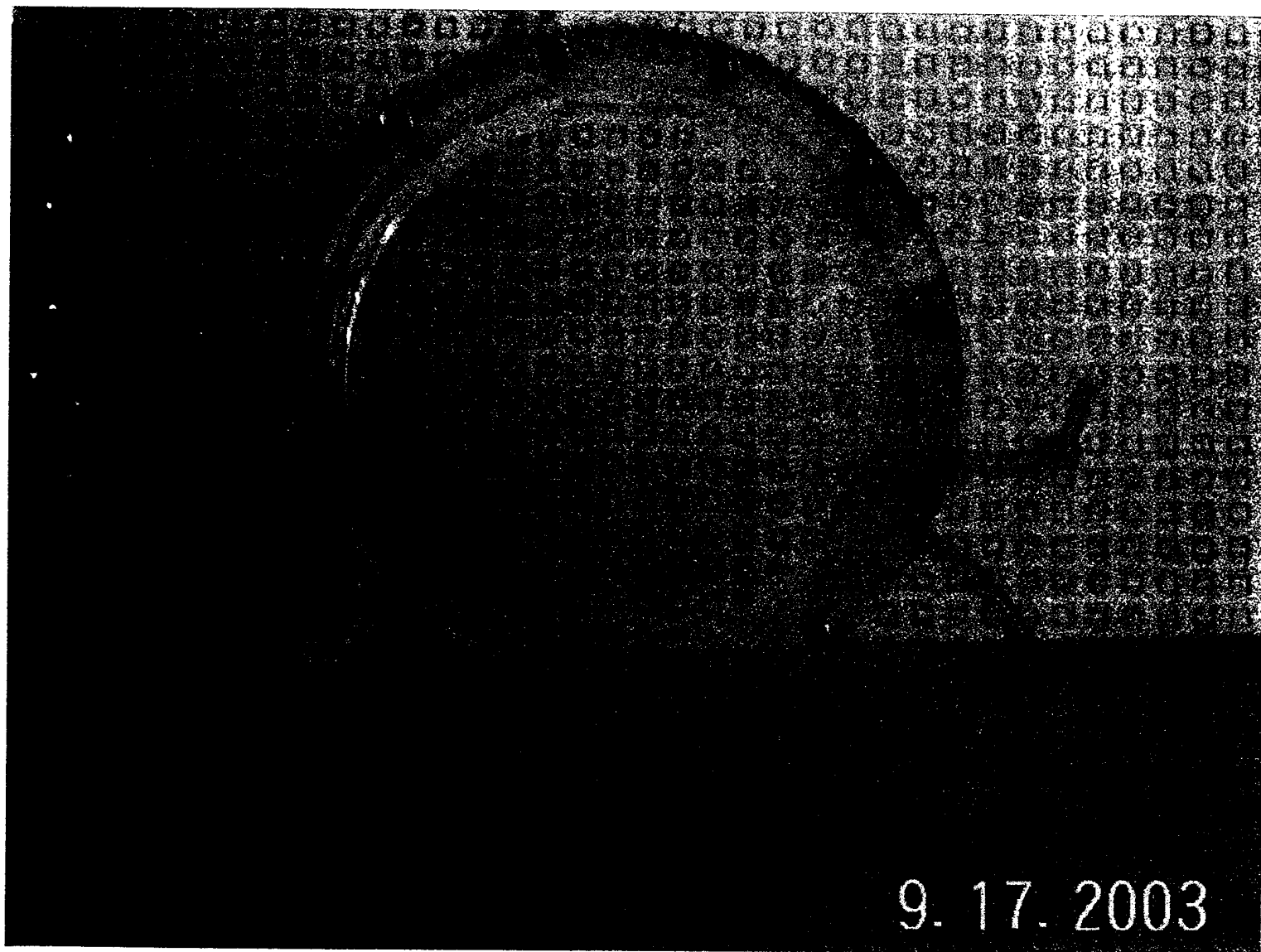
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EXHIBIT

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